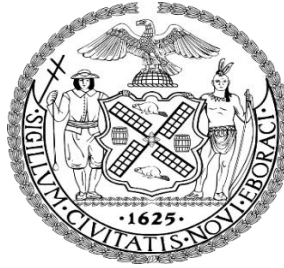


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THE COUNCIL OF THE CITY OF NEW YORK

COMMITTEE REPORT OF THE LEGISLATIVE DIVISION
Andrea Vazquez, *Director*
Smita Deshmukh, *Deputy Director, Human Services*

COMMITTEE ON HEALTH
Hon. Lynn Schulman, *Chair*

March 13, 2023

LEGISLATION:

PROPOSED INT. NO. 918-A

By Council Members Schulman, Cabán, Menin, Restler, Riley, Hudson, Narcisse, Ung, Williams, Stevens, Louis, Nurse, Brannan, Brewer, Krishnan, Gennaro, Feliz, Sanchez, Ayala, Abreu, Powers, Richardson Jordan, Velázquez, Farías, Lee, Won, Salamanca, Hanif, Avilés, Marte, Bottcher, Dinowitz, Ossé, De La Rosa, Brooks-Powers, Barron, Rivera, Hanks, Ariola, Carr and Borelli

TITLE:

A Local Law to amend the administrative code of the city of New York, in relation to requiring the department of health and mental hygiene to develop and implement a citywide diabetes incidence and impact reduction plan

I. INTRODUCTION

On March 13, 2023, the Committee on Health, chaired by Council Member Lynn Schulman, will hold a vote on Proposed Introduction 918-A, in relation to requiring the Department of Health and Mental Hygiene to develop and implement a citywide diabetes incidence and impact reduction plan. On February 1, 2023, the Committee on Health heard this legislation and received testimony from the New York City Department of Health and Mental Hygiene, advocates, and other interested parties.

II. BACKGROUND

Diabetes is a common chronic illness that affects how our bodies turn food into energy.¹ When the body converts food into sugar (glucose) and releases it into the bloodstream, the hormone insulin regulates blood sugar by allowing cells to use glucose as energy.² Low insulin levels lead to higher sugar levels in the bloodstream, causing damage and increasing the risk for various illnesses such as heart disease, vision loss, and kidney disease.³ According to the Centers for Disease Control and Prevention (CDC), diabetes is the 7th leading cause of death in the United States (U.S.), as over 37.3 million Americans, or 11.3 percent of the country's population, suffer from some form of diabetes.⁴

Nationally, the three most diagnosed forms of diabetes include type 1 (5 to 10 percent of all diagnosed cases), type 2 (90 to 95 percent of all diagnosed cases), and gestational diabetes

¹ Centers for Disease Control & Prevention, *Diabetes*, CDC, <https://www.cdc.gov/diabetes/basics/diabetes.html>.

² *Id.*

³ *Id.*

⁴ *Id.*

(diagnosed in 2 to 10 percent of all pregnancies in the U.S.).⁵ Often occurring in children, adolescents, and young adults, type 1 diabetes is thought to be caused by an autoimmune reaction where the body attacks itself and stops producing insulin.⁶ According to the CDC, between 2001 and 2017, type 1 diabetes cases among individuals under age 20 increased by 45 percent.⁷ The estimated number of youth aged 0-19 years with type 1 diabetes increased from 148 per 100,000 in 2001 to 215 per 100,000 in 2017.⁸ Specifically, there were significant increases in the number of youth living with type 1 diabetes in those aged 5-9, 10-14, and 15-19 years old, in both sexes and for each racial and ethnic group.⁹ However, type 1 diabetes remains more common among White youth compared to other racial and ethnic groups.¹⁰

In type 2 diabetes, the body uses insulin inefficiently as cells develop insulin resistance and are unable to absorb sugar for energy, leading to high blood sugar levels.¹¹ Although primarily found in adults, from 2001 to 2017, there were significant increases in the number of youth living with type 2 diabetes in those aged 10-14 and 14-19 year olds, in both sexes and for each racial and ethnic group.¹² The estimated number of youth aged 0-19 living with type 2 diabetes increased

⁵ *Id.* There is also latent autoimmune diabetes in adults (LADA), which is a slow-progressing form of autoimmune diabetes. It occurs when the pancreas stops producing adequate insulin, most likely from some “insult” that slowly damages the insulin-producing cells in the pancreas. Unlike type 1 diabetes, with LADA, an individual often won’t need insulin for several months up to years after diagnosis. M Regina Castro, M.D., *Latent Autoimmune Diabetes in Adults (LADA): What is it?*, Mayo Clinic, <https://www.mayoclinic.org/diseases-conditions/type-1-diabetes/expert-answers/lada-diabetes/faq-20057880>. Many researchers believe LADA, sometimes called type 1.5 diabetes, is a subtype of type 1, while others do not recognize it as a distinct entity. Others believe diabetes occurs on a continuum, with LADA falling between type 1 and type 2 diabetes. *Id.*

⁶ Centers for Disease Control & Prevention, *Diabetes*, CDC, <https://www.cdc.gov/diabetes/basics/diabetes.html>.

⁷ Press Release, Center for Disease Control & Prevention, *New Research Uncovers Concerning Increases in Youth Living with Diabetes in the U.S.*, CDC Newsroom (Aug. 24, 2021), <https://www.cdc.gov/media/releases/2021/p0824-youth-diabetes.html>.

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ Centers for Disease Control & Prevention, *Diabetes*, CDC, <https://www.cdc.gov/diabetes/basics/diabetes.html>.

¹² Press Release, Centers for Disease Control & Prevention, *New Research Uncovers Concerning Increases in Youth Living with Diabetes in the U.S.*, CDC Newsroom (Aug. 24, 2021), <https://www.cdc.gov/media/releases/2021/p0824-youth-diabetes.html>.

from 34 per 100,000 in 2001 to 67 per 100,000 in 2017.¹³ This increase was observed in youth aged 10-14 and 15-19 years old, in both sexes and for each racial and ethnic group.¹⁴ However, type 2 diabetes remains more common among youth in non-White racial and ethnic groups.¹⁵ The greatest increases in type 2 diabetes prevalence were seen in youth who are Black or Hispanic, and the highest number of youth per 1,000 living with type 2 diabetes were seen in youth who are Black or American Indian.¹⁶ This impact on youth from diverse racial and ethnic groups is likely linked to social determinants of health, such as where children live and play.¹⁷

Gestational diabetes, on the other hand, only develops in pregnant people who have never had diabetes and typically goes away after pregnancy; but it does predispose the mother and child to type 2 diabetes and other health problems.¹⁸ While type 2 diabetes is often linked to genetics, certain risk factors such as a higher Body Mass Index, obesity, smoking, and a diet comprised of low-fiber, high saturated fat, and sugar can lead to insulin resistance and developing diabetes.¹⁹ Additionally, being over the age of 45, or belonging to certain racial and ethnic groups (such as Black and Hispanic) can raise the risk of developing diabetes.²⁰ Currently, there is no cure for diabetes, but studies show that dietary and lifestyle changes can prevent or delay diabetes-related

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.* “Social determinants of health” (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcome and risks. SDOH can be grouped into 5 domains: (1) economic stability; (2) education access and quality; (3) health care access and quality; (4) neighborhood and built environment; and (5) social and community context. *Social Determinants of Health*, Health.gov, <https://health.gov/healthypeople/priority-areas/social-determinants-health>.

¹⁸ Press Release, Center for Disease Control & Prevention, *New Research Uncovers Concerning Increases in Youth Living with Diabetes in the U.S.*, CDC Newsroom (Aug. 24, 2021), <https://www.cdc.gov/media/releases/2021/p0824-youth-diabetes.html>.

¹⁹ National Library of Medicine, *Type 2 diabetes: Overview* (October 22, 2020), <https://www.ncbi.nlm.nih.gov/books/NBK279509>.

²⁰ Victoria Pelham, *Diabetes-Related Risks During COVID-19*, Cedars-Sinai Blog (Feb. 15, 2021), <https://www.cedars-sinai.org/blog/diabetes-covid-19.html>.

complications.²¹ According to the National Diabetes Education Program, which is sponsored by the National Institutes of Health and the CDC, individuals with prediabetes who make modest lifestyle changes could delay and possibly prevent the onset of type 2 diabetes.²² For example, by losing 5 to 7 percent of their body weight and getting 150 minutes of physical activity a week, individuals with prediabetes can cut their risk of developing type 2 by more than half.²³ A diet low in saturated fat, refined carbohydrates, high-fructose corn syrup, and high in fiber and monounsaturated fats, is also recommended.²⁴

According to an April 2022 article in the New York Times, several studies suggest that 30 to 40 percent of all COVID-19 deaths in the U.S. occurred among people with some form of diabetes.²⁵ Among the reported underlying medical conditions, cardiovascular disease and diabetes were the most common.²⁶ Although researchers are still exploring the dynamics between the virus and diabetes, most agree that uncontrolled diabetes impairs the immune system and can decrease an individual's ability to withstand a COVID-19 infection.²⁷ As Dr. David Kerr, director of research and innovation at Sansum Diabetes Research Institute in California, put it: "[d]iabetes is a wicked problem and Covid has just shone a bright light on this crisis."²⁸

²¹ Centers for Disease Control & Prevention, *Living with Diabetes* (March 9, 2022)

<https://www.cdc.gov/diabetes/managing/index.html>.

²² National Diabetes Education Program, "Small Steps. Big Rewards. Prevent type 2 Diabetes" HHS/NDEP Diabetes Prevention Campaign. Available at: <https://docs.fcs.org/Staff/wellness/PreventType2Diabetes.pdf>.

²³ National Diabetes Education Program, "Small Steps. Big Rewards. Prevent type 2 Diabetes" HHS/NDEP Diabetes Prevention Campaign. Available at: <https://docs.fcs.org/Staff/wellness/PreventType2Diabetes.pdf>.

²⁴ Rajeev Goyal et al., *Diabetes Mellitus Type 2*, National Library of Medicine (June 19, 2022) <https://www.ncbi.nlm.nih.gov/books/NBK513253>.

²⁵ Andrew Jacobs, *Covid and Diabetes, Colliding in a Public Health Train Wreck*, NY Times (April 13, 2022), <https://www.nytimes.com/2022/04/03/health/diabetes-covid-deaths.html>.

²⁶ Jonathan M. Wortham, M.D. et al., *Morbidity and Mortality Weekly Report*, CDC (July 17, 2020), <https://www.cdc.gov/mmwr/volumes/69/wr/mm6928e1.htm>.

²⁷ Andrew Jacobs, *Covid and Diabetes, Colliding in a Public Health Train Wreck*, NY Times (April 13, 2022), <https://www.nytimes.com/2022/04/03/health/diabetes-covid-deaths.html>.

²⁸ Andrew Jacobs, *Covid and Diabetes, Colliding in a Public Health Train Wreck*, NY Times (April 13, 2022), <https://www.nytimes.com/2022/04/03/health/diabetes-covid-deaths.html>.

a. Diabetes in New York

In 2020, there were an estimated 773,000 New Yorkers in the city who reported that they had diabetes (about 12 percent),²⁹ with the number of Black New Yorkers afflicted being more than double that of White, non-Latino/Hispanic New Yorkers (3,608 vs. 1,605).³⁰ In 2019, individuals over age 45 made up approximately 83 percent of total diabetes cases among adults.³¹ Further, women comprised about 10 percent more of the total adults diagnosed compared to men (435,000 vs. 352,000).³² In DOHMH's Diabetes City Council Report, data from the NYC A1C registry³³ was compared between the 5 boroughs, and showed that Queens had the highest number of adults diagnosed with diabetes (233,000), followed by Brooklyn (228,000), the Bronx (157,000), Manhattan (126,000), and Staten Island (46,000).³⁴ Additionally, across different races and ethnicities in the city, Hispanics represented the highest rates of adult diagnosed with diabetes, followed by Black (197,000), White (219,000), Asian (104,000), and Other, non-Hispanic New Yorkers (14,000).³⁵ NYC witnessed a startling 140 percent increase in diabetes cases between 1996 and 2006, and new cases are still being diagnosed nearly twice as quickly in the city as they are nationally.³⁶ While diabetes can be effectively managed, the city continues to see a rise in

²⁹ NYC DOHMH, Diabetes City Council Report Number 4 (Nov. 23, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/fn1071874?locale=en.

³⁰ NYC DOHMH, *Diabetes City Council Report Number 4* (Nov. 23, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/fn1071874?locale=en.

³¹ NYC DOHMH, *Diabetes City Council Report* (July 14, 2021). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/0p0969090?locale=en.

³² NYC DOHMH, *Diabetes City Council Report Number 4* (Nov. 23, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/fn1071874?locale=en.

³³ The NYC A1C registry program is a government mandated name-based reporting of New Yorkers' A1C test results, which is discussed below.

³⁴ NYC DOHMH, *Diabetes City Council Report Number 4* (Nov. 23, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/fn1071874?locale=en.

³⁵ *Id.*

³⁶ N.R. Kleinfield, Diabetes and Its Awful Toll Quietly Emerge as a Crisis, N.Y. Times (Jan. 9, 2006), <https://www.nytimes.com/2006/01/09/nyregion/nyregionspecial5/09diabetes.html>.

diabetes-related complications. For example, in 2017 the illness resulted in 2,001 amputations,³⁷ and one report estimated that New York State (NYS) had a minimum 20 percent annual increase in diabetes-related amputations between 2018 and 2021.³⁸

b. New York State Diabetes Prevention Program

The New York State Department of Health (NYSDOH) previously launched the NYS Medicaid program's coverage of the CDC's National Diabetes Prevention Program (NDPP) for Medicaid members that meet criteria for participation.³⁹ To be eligible for enrollment in NYS Medicaid as an NDPP provider,⁴⁰ all community-based organizations (CBOs), clinics, practitioner group practices, or sole practitioner group practices must first achieve pending, preliminary, or full recognition status under the CDC-National Diabetes Prevention Recognition Program (DPRP).⁴¹ NYSDOH also provides resources and guidance on how to access NDPP telehealth and other diabetes prevention and management resources.⁴²

³⁷ Health People, *New York State Diabetes-Related Amputation: A Horror Story*, (December 7, 2022). https://www.newswise.com/pdf_docs/167044300234434_Newpercent20Yorkpercent20Statepercent20Diabetespercent20Amputationpercent20FINAL.pdf

³⁸ NYC DOHMH, *Epi data Brief, Diabetes-related Mortality in New York City*, (June 2013). <https://www.nyc.gov/assets/doh/downloads/pdf/epi/databrief28.pdf>

³⁹ The **NDPP** is a partnership of public and private organizations working to prevent or delay type 2 diabetes. Partners make it easier for people at risk for type 2 diabetes to participate in evidence-based lifestyle change programs to reduce their risk of type 2 diabetes. NYS Department of Health, *New York State Diabetes Prevention Program (NDPP)*. Available at: https://www.health.ny.gov/health_care/medicaid/redesign/ndpp/index.htm. <https://www.cdc.gov/diabetes/prevention/index.html>; CDC, *National Diabetes Prevention Program*. Available at: <https://www.cdc.gov/diabetes/prevention/index.html>.

⁴⁰ “**NDPP provider**” refers to providers that are eligible to receive reimbursement for Medicaid NDPP services. NYS Department of Health, *NDPP Policy and Billing Guidelines*. Available at: https://health.ny.gov/health_care/medicaid/redesign/ndpp/policy-billing_guide.htm.

⁴¹ The CDC releases DPRP standards and operating procedures, which describe the standards for type 2 diabetes prevention lifestyle change programs and explain how an organization may apply for, earn, and maintain recognition as a quality diabetes-prevention program. National Diabetes Prevention Program, *DPRP Standards and Operating Procedures* (Nov. 14, 2022), <https://nationaldppcsc.cdc.gov/s/article/DPRP-Standards-and-Operating-Procedures>. Organizations that wish to offer CDC-recognized lifestyle change programs must submit an application and meet certain standards, such as having trained lifestyle coaches and using a CDC-approved curriculum to ensure high program quality. National Diabetes Prevention Program, *What CDC Recognition Means* (Dec. 16, 2022), <https://nationaldppcsc.cdc.gov/s/article/What-CDC-Recognition-Means>

⁴² National Diabetes Prevention Program, *NDPP Telehealth Guidance*, eMedNY (July 14, 2020). https://www.emedny.org/Listserv/NDPP/NDPP_Telehealth_Guidance_07-14-20.pdf; NYS Department of Health,

c. DOHMH Diabetes Prevention and Control and Resources

DOHMH has multiple programs and resources to help New Yorkers prevent, identify, and control diabetes. The DOHMH Diabetes Action Kit (the Kit) provides clinical tools, provider resources, and patient education materials to help New Yorkers navigate prediabetes and diabetes.⁴³ The Kit has a “My Diabetes Checkbook,” which is a daily log to help individuals manage diabetes and keep track of important health information, and a “My Plate Planner” tool to help with meal planning.⁴⁴ Other materials in the Kit include fact sheets on the NDPP, the Diabetes Self-Management Program, signs and symptoms of type 2 diabetes, and a guide to healthy eating and active living in NYC.⁴⁵ For healthcare providers, the Kit has a Diabetes Prevention, Diagnosis, and Treatment Guide as well as a Diabetes Prevention and Management Coaching Guide, which offer ways to discuss diabetes prevention and management.⁴⁶

DOHMH has various reporting requirements related to the prevalence of diabetes in NYC, including the sending of quarterly reports to 1800 providers across 145 healthcare facilities to help

New York State Diabetes Prevention Program (NDPP). Available at: https://www.health.ny.gov/health_care/medicaid/redesign/ndpp/index.htm.

⁴³ NYC DOHMH, *Diabetes Action Kit*, NYC Health. Available at: <https://www.nyc.gov/site/doh/providers/resources/public-health-action-kits-diabetes.page>.

⁴⁴ *My Diabetes Checkbook*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/diabetes/diabetes-checkbook.pdf>; *My Plate Planner*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/csi/obesity-plate-planner-13.pdf>.

⁴⁵ The DSMP provides free classes on strategies to manage diet and medications, increase physical activity, and is led by at least one instructor living with diabetes. The program is open to participants aged 18 and older with type 2 diabetes. *Reduce Your Risk of Getting Type 2 Diabetes*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/csi/ndpp-factsheet.pdf>; *Learn How to Manage Your Type 2 Diabetes*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/csi/dsmp-factsheet.pdf>; *Guide to Healthy Eating & Active Living in NYC*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/cdp/healthy-eating-active-living-guide.pdf>.

⁴⁶ *Diabetes Prevention, Diagnosis and Treatment Guide*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/csi/diabetes-treatment-guide.pdf>; *Diabetes Prevention and Management Coaching Guide*, NYC Health. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/csi/diabetes-coaching-scripts.pdf>.

identify patients in need of follow-up diabetes care using electronic health records.⁴⁷ A 2006 amendment to the NYC Health Code requires laboratories to report the results of A1C blood tests (blood tests that measure average blood sugar levels over the past 3 months, commonly used to diagnosed prediabetes and diabetes⁴⁸) for NYC residents to DOHMH, which are then entered in a registry and used for diabetes-related projects.⁴⁹ Pursuant to Local Law 221 of 2019, DOHMH must also produce data and submit a biannual report on diabetes-related health problems to the Council, disaggregated by geographic area and demographic characteristics where feasible.⁵⁰

On July 14, 2021, DOHMH submitted the agency’s initial data report to then-Speaker of the City Council, Corey Johnson. Data was sourced from the NYC Community Health Survey (CHS), NYC A1C Registry (Registry), and the United States Data Renal System (USDRS).⁵¹ On April 4, 2022, DOHMH submitted a report that focused on recommendations to be implemented by DOHMH, such as prioritizing place-based investments in historically marginalized neighborhoods affected by structural racism, continuing to address food justice by increasing the affordability of health foods and promoting physical activity, and addressing the social determinants of health.⁵² Other recommendations include increasing the delivery of the Diabetes

⁴⁷ NYC DOHMH, *Diabetes*, NYC Health. Available at: <https://www.nyc.gov/site/doh/providers/health-topics/chronic-diseases-diabetes.page>.

⁴⁸ CDC, *All About Your A1C*, NYC Health, <https://www.cdc.gov/diabetes/managing/managing-blood-sugar/a1c.html>.

⁴⁹ DOHMH, *Diabetes*, NYC Health. Available at: <https://www.nyc.gov/site/doh/providers/health-topics/chronic-diseases-diabetes.page> ; DOHMH Board of Health, *Notice of Adoption to Amend Article 13 of the New York City Health Code*. Available at: <https://www.nyc.gov/assets/doh/downloads/pdf/public/notice-adoption-a1c.pdf>.

⁵⁰ L.L. 2019/221.

⁵¹ NYC DOHMH, *Diabetes City Council Report* (July 14, 2021). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/0p0969090?locale=en.

⁵² NYC DOHMH, *Diabetes City Council Report* (April 4, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/w9505331h?locale=en.

Self-Management Education and Support program in underserved neighborhoods and continuing to expand the number of CBOs and providers in areas that deliver the NDPP.⁵³

d. Other NYC Programs Addressing Diabetes Prevention and Control

The NYC Office of Labor Relations provides information and resources on its website on how NYC employees can join the NDPP through WorkWell NYC (WorkWell), the City’s employee workplace wellness program.⁵⁴ WorkWell provides access to NDPP classes that are designed to help employees lead a healthier lifestyle and is open to all NYC employees for free.⁵⁵ On January 17, 2023, Mayor Eric Adams outlined his “vision for a ‘New York City Women’s Health Agenda,’” directed at “dismantling decades of systematic inequity that have negatively impacted the health of women across the five boroughs.”⁵⁶ This includes launching a provider education campaign on maternal health that focuses on supporting those with hypertension and diabetes and will involve direct outreach to providers in the Bronx, Brooklyn, and Manhattan that experience health and other socioeconomic disparities.⁵⁷ The program is set to launch in the summer of 2023.⁵⁸

III. ISSUES AND CONCERNS

a. Intersection of Diabetes, Food Access, Race, Sex and Socioeconomic Status

The COVID-19 pandemic highlighted unequal vulnerabilities borne by racially and ethnically diverse populations and low-income communities.⁵⁹ This inequality is especially visible

⁵³ NYC DOHMH, *Diabetes City Council Report Number 4* (Nov. 23, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/fn1071874?locale=en.

⁵⁴ NYC Office of Labor Relations, *National Diabetes Prevention Program*. Available at: <https://www.nyc.gov/site/olr/wellness/wellness-dpp.page>.

⁵⁵ *Id.*

⁵⁶ Press Release, *Mayor Adams Commits to Making New York City Future of Women’s Health*, NYC (Jan. 17, 2023). Available at: <https://www.nyc.gov/office-of-the-mayor/news/037-23/mayor-adams-commits-making-new-york-city-future-women-s-health-/0>.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ Felicia Hill-Briggs et al., *Social Determinants of Health and Diabetes: A Scientific Review*, *Diabetes Care* (Jan. 2021). Available at: <https://doi.org/10.2337/dci20-0053>.

when examining rates of type 2 diabetes within the context of socioeconomic status.⁶⁰ Decades of research show that diabetes affects racially and ethnically diverse populations and low-income adult populations in the U.S. disproportionately, with relatively intractable patterns seen in these populations' increased risks for and rates of diabetes complications and mortality.⁶¹ DOHMH's website advises that Black Americans, Hispanic/Latino Americans, American Indians, Asian Americans, and Pacific Islanders are at higher risk of developing type 2 diabetes than non-Hispanic White individuals.⁶² Mounting research also shows that while men are more susceptible to developing type 2 diabetes, diabetes more adversely affects women.⁶³ Women with diabetes are disproportionately impacted by depression and anxiety, and women with type 2 diabetes have a 27 percent higher risk of stroke and 44 percent higher risk of coronary heart disease than men with diabetes.⁶⁴ Compounding the issue, women with diabetes are more likely to receive a lower standard of care than that received by men, leading to worse health outcomes.⁶⁵

According to a study, individuals with a lower socioeconomic status, who are disproportionately individuals from diverse racial and ethnic groups, were more likely to develop type 2 diabetes, experience more complications, and die sooner than individuals with a higher socioeconomic status.⁶⁶ The higher a person's income, the greater their educational attainment,

⁶⁰ *Id.*

⁶¹ Sherita Golden et al., *Health disparities in endocrine disorders: biological, clinical, and nonclinical factors – an Endocrine Society scientific statement*, PubMed.gov (Sept. 2012). Available at: <https://pubmed.ncbi.nlm.nih.gov/22730516>.

⁶² NYC DOHMH, *Type 2 Diabetes*, <https://www.nyc.gov/site/doh/health/health-topics/diabetes.page>.

⁶³ The Lancet Diabetes & Endocrinology, *Sex disparities in diabetes: bridging the gap* (Nov. 2017), [https://doi.org/10.1016/S2213-8587\(17\)30336-4](https://doi.org/10.1016/S2213-8587(17)30336-4).

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ Emilie Agardh et al., *Type 2 diabetes incidence and socio-economic position: a systematic review and meta analysis*, PubMed.gov (June 2011). Available at: <https://pubmed.ncbi.nlm.nih.gov/21335614>; Arleen Brown et al., *Socioeconomic position and health among persons with diabetes mellitus: a conceptual framework and review of the literature*, *Epidemiologic reviews* (July 1, 2004). Available at:

and the higher their occupational grade, the less likely a person is to develop type 2 diabetes or to experience its complications.⁶⁷ In fact, the prevalence of diabetes increases on a gradient from highest to lowest income, showing that rates of diabetes are directly correlated to income level.⁶⁸ Rates of type 2 diabetes are significantly higher and concentrated in U.S. Census-designated areas characterized by factors including lower incomes, lower high school graduation rates, more single-parent households, and crowded housing.⁶⁹ Living in neighborhoods with lower educational attainment, lower annual income, and larger percentages of households receiving Supplemental Nutrition Assistance Program benefits has been associated with higher risk of progression to type 2⁷⁰ diabetes among adults with prediabetes.⁷¹ Because people with diabetes have medical expenses approximately 2.3 times higher than those who do not, Black and Brown communities and low-income communities are disproportionately impacted due to lack of access to health insurance,⁷² pay inequity,⁷³ and lack of access to affordable health care options.

<https://www.semanticscholar.org/paper/Socioeconomic-position-and-health-among-persons-a-Brown-Ettner/c09cb54afbd6e49a505e8e8ff5e8a1d79b401a41>.

⁶⁷ Linnie Greene, *Treating diabetes with data*, Arcadia (Nov. 10, 2022), <https://arcadia.io/resources/treating-diabetes-with-data>.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ NYC DOHMH, *Diabetes City Council Report Number 4* (Nov. 23, 2022). Available at: <https://a860-gpp.nyc.gov/concern/nyc-government-publications/fn1071874?locale=en>.

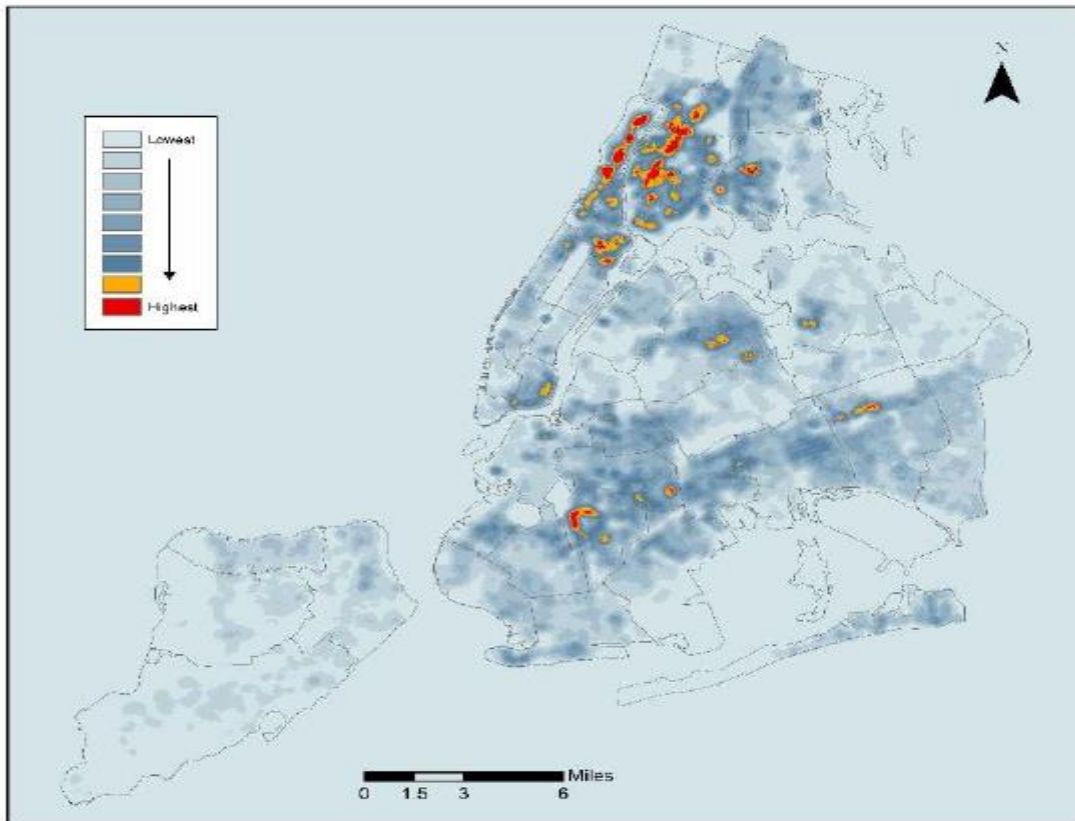
⁷¹ *Id.*

⁷² Samantha Artiga and Latoya Hill, *Health Coverage by Race and Ethnicity, 2010-2021*, Kaiser Family Foundation (Dec. 20, 2022) <https://www.kff.org/racial-equity-and-health-policy/issue-brief/health-coverage-by-race-and-ethnicity>.

⁷³ U.S. Department of Labor: Office of Federal Contract Compliance Programs, *Earnings Disparities: Earning Disparities by Race and Ethnicity*, <https://www.dol.gov/agencies/ofccp/about/data/earnings/race-and-ethnicity>.

City statistics are consistent with national trends identified in these studies. The highest concentrations of New Yorkers living with poorly controlled or uncontrolled diabetes in 2020 were found in many areas of the Bronx, as well as Upper Manhattan and central Brooklyn:⁷⁴

Density of Persons with Poorly Controlled Diabetes New York City 2020



*Density of persons with poorly controlled diabetes per 0.1 square mile
Data source: New York City A1C Registry, 2020



In its reporting, DOHMH acknowledged that limited access to healthy and affordable food in these neighborhoods directly contributes to higher rates of type 2 diabetes.⁷⁵ Indeed, many national studies have shown associations between food access, availability, geographic

⁷⁴ NYC DOHMH, *Diabetes City Council Report Number 4* (Nov. 23, 2022). Available at: https://a860-gpp.nyc.gov/concern/nyc_government_publications/fn1071874?locale=en.

⁷⁵ *Id.*

characteristics, and the prevalence of type 2 diabetes.⁷⁶ Specifically, these studies showed that availability of fast-food outlets and convenience stores were associated with a higher rates of type 2 diabetes, and, by contrast, access to healthier foods in grocery stores were associated with lower diabetes risk.⁷⁷ In addition to food insecurity and health food access, overeating can contribute to risks of developing type 2 diabetes. Fast food consumption in the U.S. has risen by 500% during the last 3 decades, while the number of children who are obese has tripled.⁷⁸ In one study, it was reported that kids who eat fast food tend to take in more total calories in a day than those who do not, and that the additional calories could account for an extra 6 pounds of weight gain per year.⁷⁹ Further, research from the Mount Sinai School of Medicine found that overeating can cause a malfunction in brain insulin signaling, which can initiate and worsen obesity and type 2 diabetes.⁸⁰ When an individual overeats, the brain becomes unresponsive to important clues such as insulin, “which puts you on the road to diabetes.”⁸¹

b. Barriers to Accessing Preventative and Primary Health Care

Primary care represents an important venue for addressing diabetes prevention, given that over 350 million adult ambulatory care visits are made annually, and screening tests are commonly performed in these settings.⁸² Access to effective primary care means that providers and services

⁷⁶ Melissa Ahern et al., *A national study of the association between food environments and county-level health outcomes*, PubMed.gov (April 27, 2011). Available at: <https://pubmed.ncbi.nlm.nih.gov/21967380>.

⁷⁷ N.R. den Braver et al., *Built environmental characteristics and diabetes: a systematic review and meta-analysis*, PubMed.gov (Jan. 31, 2018). Available at: <https://pubmed.ncbi.nlm.nih.gov/29382337>.

⁷⁸ Salynn Boyles, *Fast Food Leads Teens to Overeat*, WebMD (June 15, 2004), <https://www.webmd.com/parenting/news/20040615/fast-food-leads-teens-to-overeat>.

⁷⁹ *Id.*

⁸⁰ Mount Sinai Medical Center, *Overeating impairs brain insulin function, a mechanism that can lead to diabetes and obesity*, Science News (Oct. 17, 2012), <https://www.sciencedaily.com/releases/2012/10/121017153911.htm>.

⁸¹ *Id.*

⁸² Namratha R. Kandula et al., *Preventing Diabetes in Primary Care: Providers’ Perspectives About Diagnosing and Treating Prediabetes*, Journal on Clinical Diabetes (Jan. 1, 2018). Available at: <https://diabetesjournals.org/clinical/article/36/1/59/31793/Preventing-Diabetes-in-Primary-Care-Providers>.

are affordable, comprehensive, ongoing, and coordinated.⁸³ The onset of type 2 diabetes, as discussed above, can be addressed through lifestyle and diet modification to avoid developing a more serious, costly, and chronic health condition. Inequalities in primary care access and delivery are largely driven by economics, including insurance coverage, reimbursement, and social determinates of health.⁸⁴ Geographic, demographic, and socioeconomic characteristics impact where primary care providers are located, and even in communities where providers are available, disparities in access remain.⁸⁵ According to a 2019 report by the Primary Care Development Corporation, primary care plays a critical role in mitigating chronic disease burden (i.e., diabetes) and helps reduce unnecessary hospitalizations and mortality due to poorly managed chronic conditions.⁸⁶ Diabetes disproportionately affects individuals of lower socioeconomic status and is indicative of the overlapping factors related to increased primary care need.⁸⁷

IV. LEGISLATIVE ANALYSIS

a. Proposed Int. 918-A

The proposed bill would require DOHMH to develop a citywide diabetes incidence and impact reduction plan. DOHMH would be required to report annually on the number of adults with diabetes in NYC and on its strategies and efforts to reduce the incidence and impact of diabetes.

Since its initial hearing, the bill was amended to expand the scope of the required plan from a “type 2 diabetes reduction plan” to a “diabetes incidence and impact reduction plan,” which would encompass all types of diabetes. The bill as amended requires specific data points for

⁸³ Primary Care Development Corporation, *Primary Care Access in New York City 2019 Report*. Available at: https://www.pcdc.org/wp-content/uploads/Resources/FY19_NYC_Districts/FY19-NYC-CD-Profiles-Report_-_FINAL.pdf.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

DOHMH to include in its plan and in its annual reports to the Mayor, the Speaker of the Council, and the Chair of the Council's Committee on Health. The bill also now includes a sunset provision and would expire on December 21, 2034.

Proposed Int. No. 918-A

By Council Members Schulman, Cabán, Menin, Restler, Riley, Hudson, Narcisse, Ung, Williams, Stevens, Louis, Nurse, Brannan, Brewer, Krishnan, Gennaro, Feliz, Sanchez, Ayala, Abreu, Powers, Richardson Jordan, Velázquez, Farías, Lee, Won, Salamanca, Hanif, Avilés, Marte, Bottcher, Dinowitz, Ossé, De La Rosa, Brooks-Powers, Barron, Rivera, Hanks, Ariola, Carr and Borelli

A Local Law to amend the administrative code of the city of New York, in relation to requiring the department of health and mental hygiene to develop and implement a citywide diabetes incidence and impact reduction plan

Be it enacted by the Council as follows:

Section 1. Title 17 of the administrative code of the city of New York is amended by adding a new section 17-199.20 to read as follows:

§ 17-199.20 Citywide diabetes reduction plan. a. No later than April 1, 2024, the department shall develop a plan to reduce the incidence and impact of diabetes in the city. Such plan shall, at a minimum:

1. Identify a goal percentage by which and a goal timeline in which each of the following will be reduced:

(a) new annual diagnoses of diabetes;

(b) the number of individuals with uncontrolled diabetes;

(c) the number of individuals on dialysis due in whole or in part to diabetes; and

(d) the number of amputations performed due in whole or in part to diabetes;

2. Identify a goal percentage by which and a goal timeline in which the number of individuals with diabetes that are successfully self-managing their diabetes is increased;

3. Include a description of strategies the department will utilize to realize such goals;

4. Include strategies to increase access to low- and no-cost obesity and diabetes care that may or may not include medications and treatments;

5. Be culturally appropriate and focus on social determinants of health; and

6. Be posted in plain language on the department's website and available in the designated citywide languages as defined in section 23-1101.

b. Report. No later than April 1, 2025, and every April 1 thereafter, the department shall submit to the mayor, the speaker of the council, and the chair of the New York city council committee on health, and post on its website a report on the implementation of the plan.

1. Such report shall include, for the prior year, disaggregated by the type of diabetes, geographic area, and demographic characteristics, where such data is available, provided that information included in the report shall maintain the confidentiality of any individual included in such data:

(a) The number of adults with diabetes, and the proportion of such number of the general population;

(b) The change in the incidence of diabetes, when such data is available;

(c) The change in the incidence and prevalence of uncontrolled diabetes;

(d) The change in the number of individuals on dialysis due in whole or in part to diabetes;

and

(e) The number of amputations performed due in whole or in part to diabetes;

2. A description of the strategies used by the department during the prior year to achieve the goals identified by the plan;

3. A detailed description of the strategies used by the department during the prior year to promote the self-management of diabetes and increase access to devices and information that facilitate such self-management;

4. A detailed description of the strategies employed by the department to increase access to low- and no-cost obesity and diabetes care that may or may not include medications and treatments; and

5. Any new goals the department may identify to reduce the incidence of diabetes based on the content of the report.

§ 2. This local law takes effect immediately and expires and is deemed repealed on December 21, 2034.

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LS #11914
2/22/23 7:40 pm